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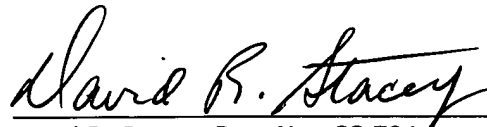
Application of: E. Byron et al. )  
Serial No.: 10/024,458 ) Group Art Unit: 3636  
Filed: December 21, 2001 )  
Title: Medium Voltage Motor Control Center ) Examiner: J.F. Edell  
Arc Resistant Enclosure )

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**TRANSMITTAL OF BRIEF ON APPEAL UNDER 37 CFR §1.192  
WITH FEE AUTHORIZATION AND PAYMENT OF FEES UNDER 37 CFR §1.17(c)**

Enclosed please find Applicants' Brief on Appeal under 37 CFR 1.192 (23 pages - in triplicate).

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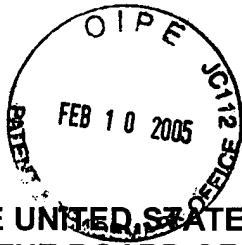
  
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Darlene Rentschler / Laura G. Weiss



PATENT  
USSN: 10/027,458

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCE

In re application of:  
E. Byron et al.

Application No.: 10/027,458

Filed: December 21, 2001

For: MEDIUM VOLTAGE MOTOR CONTROL  
CENTER ARC RESISTANT ENCLOSURE)

Conf. No.: 1519

Group Art: 3636

Examiner: Edell, Joseph F.

**BRIEF ON APPEAL UNDER 37 C.F.R. §1.192**

Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

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A. The rejection of claims 1, 8-12, 15-17, 30 and 31, under 35 U.S.C. §103(a), as being as being unpatentable over Rennie et al. (U.S. Patent No. 5,574,624) in view of McWhirter (U.S. Patent No. 2,064,439) is erroneous since the cited references do not disclose or suggest an arc resistant cabinet for enclosing a medium voltage controller as claimed in the rejected claims.....6

B. The Rejection of Claims 13, 14, 20, 28, 29 and 32, stand rejected under 35 U.S.C. §103(a) as being as being unpatentable over Rennie et al. (U.S. Patent No. 5,574,624) in view of McWhirter (U.S. Patent No. 2,064,439) as applied to claims 1, 8-12, 15-17, 30 and 31 above and further in view of Cugley et al. (U.S. Patent No. 5,137,340). is erroneous since the cited references do not disclose or suggest an arc resistant cabinet for enclosing a medium voltage controller as claimed in the rejected claims.....11

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APPENDIX OF THE APPEALED CLAIMS

UNITED STATES PATENT NO. 2,064,439

UNITED STATES PATENT NO. 5,137,340

UNITED STATES PATENT NO. 5,574,624

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCE

|                                   |   |                            |
|-----------------------------------|---|----------------------------|
| In re application of:             | ) |                            |
| E. Byron et al.                   | ) |                            |
| Application No.: 10/027,458       | ) | Conf. No.: 1519            |
| Filed: December 21, 2001          | ) | Group Art: 3636            |
| For: MEDIUM VOLTAGE MOTOR CONTROL | ) | Examiner: Edell, Joseph F. |
| CENTER ARC RESISTANT ENCLOSURE)   | ) |                            |

**BRIEF ON APPEAL UNDER 37 C.F.R. §1.192(d)**

Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

Dear Sir:

Please consider the following remarks, which are submitted under 37 C.F.R. §1.192.

**I. REAL PARTY OF INTEREST**

The real parties of interest are the named inventors and Square D Company, a corporation of the state of Delaware having a principal place of business at the address indicated below and being the assignee to all rights of any subsequent patent issuing from this application.

Square D Company  
1415 South Roselle Rd.  
Palatine, IL 60067

**II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences.

**III. STATUS OF THE CLAIMS**

Claims 2-7, 18, 19 and 21-27 have been canceled.

Claims 1, 8-12, 15-17, 30 and 31 stand rejected under 35 U.S.C. §103(a), as being as being unpatentable over Rennie et al. (U.S. Patent No. 5,574,624) in view of McWhirter (U.S. Patent No. 2,064,439).

Claims 13, 14, 20, 28, 29 and 32, stand rejected under 35 U.S.C. §103(a) as being as being unpatentable over Rennie et al. (U.S. Patent No. 5,574,624) in view of McWhirter (U.S. Patent No. 2,064,439) as applied to claims 1, 8-12, 15-17, 30 and 31 above and further in view of Cugley et al. (U.S. Patent No. 5,137,340).

Claims 1, 8-17, 20 and 28-32 are under appeal in this brief.

**IV. STATUS OF THE AMENDMENTS**

The applicant's amendment A, filed on June 8, 2004, presenting amendments to the drawings, specification and claims, canceling claims 2-7, 18, 19 and 21-27, adding new claims 28-32, and submitting applicant's arguments to overcome the Examiner's rejections under 35 U.S.C. §112, 35 U.S.C. §102 and 35 U.S.C. §103, has been entered by Examiner Edell.

**V. SUMMARY OF THE INVENTION**

The present invention, as disclosed on pages 1 and 7-11 of the specification and illustrated in figures 1 and 3 through 8C of the application under appeal, provides an arc

resistant cabinet for enclosing a medium voltage controller. The controller can be subject to arcing faults that produces arc gasses sufficient to cause damage and bodily harm if the integrity of the cabinet is not maintained. The arc resistant cabinet disclosed in this application includes features that use the arc gases produced during a fault to assist in sealing and maintaining the integrity of doors and panels provided in the cabinet walls for access to controller components housed inside the cabinet, and the structure of the cabinet itself.

**VI. THE ISSUES PRESENTED FOR REVIEW**

Whether Examiner Edell erroneously rejected each of the claims 1, 8-12, 15-17, 30 and 31, as being unpatentable over Rennie et al. in view of McWhirter?

Whether Examiner Edell erroneously rejected each of the claims 13, 14, 20, 28, 29 and 32, as being unpatentable over Rennie et al. in view of McWhirter as applied to claims 1, 8-12, 15-17, 30 and 31 above and further in view of Cugley et al.?

**VII. GROUPING OF CLAIMS**

The 35 U.S.C. §103(a) rejection of claims 1, 8-12, 15-17, 30 and 31, with respect to Rennie et al. in view of McWhirter do not stand or fall together. The claims are of varying scope and their differences are discussed below under the "Argument" section. The claims should be treated as two groups: group one being claims 1, 8-10, 16, 30 and 31 and group two being claims 11, 12, 15 and 17.

The 35 U.S.C. §103(a) rejection of claims 13, 14, 20, 28, 29 and 32, with respect to Rennie et al. in view of McWhirter and further in view of Cugley et al. do not stand or fall together. The claims are of varying scope and their differences are discussed below under the "Argument" section. To simplify matters, however, the claims can be treated as one group being claims 13, 14, 20, 28, 29 and 32.

VIII. ARGUMENTS

- A. The rejection of claims 1, 8-12, 15-17 and 31 under 35 U.S.C. §103 (a) based on Rennie et al. in view of McWhirter is erroneous since the cited references do not teach or suggest an arc resistant cabinet for enclosing a medium voltage controller as set forth in the rejected claims.

Examiner Edell has rejected Claims 1, 8-12, 15-17, 30 and 31 under 35 U.S.C. § 103(a) as being unpatentable over Rennie et al. in view of McWhirter. M.P.E.P. 706.2(j) states that three basic criteria must be met for a *prima facie* obviousness rejection of claims under 35 U.S.C. §103(a). First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on the applicant's disclosure. M.P.E.P. 2142 states the following with respect to *prima facie* obviousness rejections: "Knowledge of applicant's disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the 'differences,' conduct the search and evaluate the 'subject matter as a whole' of the invention. The tendency to resort to 'hindsight' based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art." "The ultimate determination of patentability is based on the entire record, by a preponderance of evidence, with due consideration to the persuasiveness of any arguments and secondary evidence." *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). The legal standard of 'a preponderance of evidence' requires the evidence to be more convincing than the evidence which is offered in opposition to it. With regard to rejections under 35 U.S.C. §103, the examiner must provide evidence which as a whole shows that the legal determination sought to be proved (i.e., the reference teaching establishing a

*prima facie* case of obviousness) is more probable than not.” “Facts established by rebuttal evidence must be evaluated along with the facts on which the conclusion of obviousness was reached, not just the conclusion itself.” *In re Eli Lilly & Co.*, 902F2d943, 14 USPQ2d 1741 (Fed. Cir. 1990). M.P.E.P. 2111.01 I., states that “the words of a claim must be given there ‘plain meaning’ unless they are defined in the specification”. M.P.E.P. 2111.01 II., states that “Claim terms are presumed to have the ordinary and customary meanings attributed to them by those of ordinary skill in the art.” M.P.E.P. 2143.03 further states: “All words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

With respect to independent claim 1, in the Final Office Action Examiner Edell has suggested that Rennie teaches all of the claimed elements except for a door, a first member, a second member, a hinge, a channel and a seal. Applicants agree that Rennie does disclose a cabinet for enclosing similar control devices that includes walls, a roof panel, a floor panel and exhaust vents for discharging gasses. Rennie does not teach or suggest that his cabinet has any access doors or panels, or that the integrity of any access doors or panels should be maintained during an arcing fault event. Rennie relies solely on his venting system to relieve all internal gas pressures resulting from the arc fault. Those skilled in the art are well aware that arc fault gas pressures rise with such speed that even a slight restriction in the venting system can result in internal pressures significant enough to distort a metal cabinet. Such pressures will most certainly breach the integrity of most standard doors, door hinges or latching mechanisms. Examiner Edell has suggested that McWhirter teaches a cabinet having those elements of claim 1 not taught by Rennie. Those elements include, as shown in Examiner Edell’s version of McWhirter’s Figure 15, a door 6, a first member A, a second member B, a hinge (looped element at the bottom of the figure), channel 22 and a resilient seal 15. However, the construction of McWhirter’s cabinet, as illustrated in the Figures, does not teach or suggest that his cabinet is intended to be subjected to any type of arcing fault. Figure 1



shows vents 41 in the access doors, which would not be desirable during an arc fault event. Figure 3 shows wood internal structural members 70 (page 2, right column, lines 54-56), which would not be acceptable in any cabinet that might experience an arc fault event. Figure 13 further illustrates that McWhirter does not intend to maintain cabinet integrity during an arc fault event since the left door 5 is maintained in the closed position only by the edge of the right door 6 (page 2, left column, lines 29-37). Therefore, applicants contend that there is no teaching or suggestion in either Rennie or McWhirter that would lead one skilled in the art to modify Rennie by adding the doors and panels of McWhirter, as suggested by Examiner Edell. Examiner Edell has suggested that "one would have been motivated to make such a modification in view of the suggestion in McWhirter that the door with the resilient seal and the access panel with the resilient seal allows for accessibility to electrical components within the cabinet while insuring that the door and access panel are waterproof." While the resilient seal should provide a waterproof access, the limitations of the elements as claimed in the rejected claims permits the integrity of the cabinet doors and panels to be maintained during an arc fault event. Examiner Edell has also indicated that "it would be obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the cabinet such that the edges facing in corresponding directions because the reversal of direction and/or parts is ordinarily within the skill of the art." M.P.E.P. 2144.04 VI. C. states "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984). Neither Rennie nor McWhirter provide any motivation or reason for someone to reverse the orientation of parts of the door and the surrounding cabinet walls. Therefore, the first requirement set forth in M.P.E.P. 706.2(j) for an obviousness rejection is not met by Examiner Edell's suggested combination of Rennie and McWhirter. Further, since it is obvious from the construction of McWhirter's cabinet that it was not intended to withstand any type of arcing fault event there is no reasonable expectation of success in the suggested modification of Rennie. Therefore, the second requirement set forth in

M.P.E.P. 706.2(j) for an obviousness rejection is not met by Examiner Edell's suggested combination of Rennie and McWhirter.

Independent claim 1 specifically sets forth:

a door for accessing said controller and maintaining integrity of said cabinet during said arc fault event;

a first member disposed parallel to one of said plurality of walls;

a second member connecting said first member to said one of said plurality of walls;

a hinge connecting said door to one of said first member, said second member, and said one of said plurality of walls;

a channel attached to said door and extending over said hinge, said channel adapted for receiving an edge of said first member, said edge opposite said second member; and

a resilient seal disposed between said edge and said channel.

Applicants agree that McWhirter teaches a door 6, an element A generally equivalent to the first member, an element B generally equivalent to the second member, a hinge, an element 22 generally equivalent to the channel and a seal 15. However, to meet the third requirement of M.P.E.P. 706.2(j) for an obviousness rejection, the combined art must teach or suggest all of the limitations of the rejected claim. As clearly shown in Examiner Edell's Figure 15, the channel 22 is connected to the first member A, therefore it can not be attached to the door as required in claim 1. By being connected to or extending from the first member A, the first member A can not have an edge opposite the channel 22 as required in claim 1. Since there is no edge of the first member A opposite the channel 22, the resilient seal 15 can not be disposed between the edge and the channel 22 as required in claim 1. Therefore, the third requirement set forth in

M.P.E.P. 706.2(j) for an obviousness rejection is not met by Examiner Edell's suggested combination of Rennie and McWhirter.

With respect to dependent claim 8, Examiner Edell has suggested that the claimed plurality of latch hooks and striker assembly of the present invention would be obvious to one skilled in the art after seeing the latch means of McWhirter, shown as elements C and D in Examiner Edell's version of McWhirter's Figures 1 and 3. Figures 1, 3 and 4 clearly illustrate that his doors 5 and 6 have a simple two point latch, which McWhirter describes as "a well known latching device 47" (page 2, left column, line 38). Those skilled in the art will recognize that this type of latching mechanism, particularly with only two latch points, will not maintain the integrity of the door during an arcing fault event. M.P.E.P. 2143.03 states: "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). M.P.E.P. 2111.01 II. states that "Claim terms are presumed to have the ordinary and customary meanings attributed to them by those of ordinary skill in the art." The ordinary and customary meaning of the word hook, as found in any dictionary, refers to an object with a hook-like (fishhook) shape. Applicants do not believe that one having ordinary skill in the art would find the latch hooks of the present invention (Figures 8A and 8B) "obvious" after seeing the rod or pin type latch mechanism of McWhirter's figures 1 and 3. Claim 8 is dependent from, and further defines claim 1, and would therefore be allowable if claim 1 is allowed, according to *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

With respect to dependent claims 9 and 10, the arguments presented in support of claim 1 are relevant as well as *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

With respect to independent claims 11 and 17, which include all of the restrictions of claim 1 and further includes the "latch hook" latching mechanism of dependent claim 8, the arguments presented above in support of claims 1 and 8 are relevant.

With respect to independent claims 16 and 31 and dependent claims 12, 15 and 30, the arguments presented in support of independent claim 1 are relevant. Independent claims 16 and 31 define a removable access panel (Figures 4A and 4B), which incorporates sealing features on the panel edge and wall opening that cooperate in the same manner as the channel and first member of claim 1. Dependent claims 12, 15 and 30, according to *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), will be allowable if the independent claim from which they depend is found to be nonobvious under 35 U.S.C. 103.

**B. The rejection of claims 13, 14, 20, 28, 29 and 32, under 35 U.S.C. §103(a) based on Rennie et al. in view of McWhirter and further in view of Cugley et al. is erroneous since the cited references do not teach or suggest an arc resistant cabinet for enclosing electrical equipment as set forth in the rejected claims.**

Examiner Edell has rejected Claims 13, 14, 20, 28, 29 and 32, under 35 U.S.C. § 103(a) as being unpatentable over Rennie et al. in view of McWhirter and further in view of Cugley et al. With respect to independent claims 20, 29 and 32, as indicated above in the arguments presented in support of claim 1, Examiner Edell's suggested combination of Rennie and McWhirter does not meet any of the three basic requirements for an obviousness rejection as set forth in M.P.E.P. 706.2(j). Therefore, the basic structure for the cabinet to be modified by the teaching of Cugley is not founded. Further, while Cugley teaches a display case having at least one open side, he does not teach or suggest a cabinet providing a complete enclosure as in Rennie, McWhirter or the present invention. Therefore there is no issue with internal pressures that would require additional shear strength at assembly hardware points. Cugley does not teach or suggest using his receptor cavities and protrusions for assembling the components (top, bottom and sides) that make up his display case. Cugley does teach using the receptor cavities and protrusions for "releasably locking" adjacent display cases together vertically, along an axis 6, and horizontally along an axis 7 (Figure 1). Therefore, Cugley uses his receptor cavities and protrusions to maintain a particular relative position between adjacent display cases, which does not apply a sheer force to the receptor cavities and protrusions.

McWhirter, on page 1, right column, lines 14-36, teaches welding the top, sides and bottom of his cabinet together. Therefore, there are no sheerable assembly fasteners and no need to provide additional shear strength. Rennie is silent with respect to the method of assembling his cabinet; however, he does indicate that his internal arc chamber can be assembled "by bolting, welding or otherwise fastening sheet metal or other appropriate barrier materials within an integrated frame". Therefore, there is no teaching or suggestion in any of the cited art for the combination set forth by Examiner Edell. The first basic requirement for an obviousness rejection as set forth in M.P.E.P. 706.2(j) has not been met. Further, since Cugley does not teach or suggest any structural benefit in using his receptor cavities and protrusions, there is no reasonable expectation of success in increasing the shear strength between the cabinet components. The second basic requirement for an obviousness rejection as set forth in M.P.E.P. 706.2(j) has not been met. Examiner Edell has suggested that it would have been obvious for one skilled in the art to modify Rennie's cabinet to include the receptor cavities and projections (dimples) of Cugley such that neighboring cabinets could releasably locked together. This suggested combination would allow the adjacent cabinets of Rennie to be easily assembled together but does not meet the limitations of "providing a high sheer strength attachment between said plurality of walls and said baffle" (independent claim 20), "providing increased sheer strength between said plurality of walls, said roof panel and said floor panel of said cabinet" (independent claim 29) or "providing increased sheer strength between said plurality of structural members, said plurality of walls, said roof panel and said floor panel of said cabinet" (independent claim 32). Examiner Edell's suggested combination of Rennie, McWhirter and Cugley does not teach or suggest all of the limitations of the rejected claims. Therefore, the third requirement for an obviousness rejection as set forth in M.P.E.P. 706.2(j) has not been met.

With respect to claims 13 and 14, the arguments presented above in support of claims 20, 29 and 32, are relevant. Further, being dependent from claim 11, rejected under the combination of Rennie and McWhirter claims 13 and 14 will be allowable according to M.P.E.P. 2143.03, if claim 11 is found to be nonobvious under 35 U.S.C. § 103.

With respect to claims 28 and 30, being dependent from claims 20 and 29, respectively, they will be allowable according to M.P.E.P. 2143.03, if claims 28 and 30 are found to be nonobvious under 35 U.S.C. § 103.

**C. Standing Alone, None of the Prior Art References Can Support Examiner Edell's Rejection**

Independent claims 1, 11, 16, 17 and 31, each define a cabinet for enclosing electrical devices that are subject to arcing faults, which can produce high gas pressures inside the enclosure. The cabinet is provided with vents through which the gas can exit the enclosure and a hinged door and/or a removable panel that provides access to the enclosed electrical devices. In the event that the vents can not sufficiently relieve the gas pressure the doors, panels and surrounding cabinet walls are configured as set forth in independent claims 1, 11, 16 and 31, such that the integrity of the cabinet is maintained during the arc fault event. Independent claims 11 and 17 also define latch hook features, which maintain the integrity of the doors during an arc fault event. The particular configuration of these features as set forth in the claims causes the gas pressure inside the cabinet to assist in maintaining the integrity of the doors and panels during an arc fault event. None of these features are taught or suggested by either Rennie or McWhirter or Examiner Edell's suggested combination of Rennie and McWhirter. Therefore, the claimed invention is patentably distinguishable therefrom according to M.P.E.P. 2143.03 *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). Since claims 8, 9 and 10 are dependent from claim 1 and claims 12-15 are dependent from claim 11, they are also allowable according to M.P.E.P. 2143.03. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Therefore, the rejection of claims 1, 8-17 and 31, is unsupported and should be reversed.

Independent claims 20, 29 and 32, each define a cabinet for enclosing electrical devices that are subject to arcing faults, which can produce high gas pressures inside the enclosure. The cabinet walls, cabinet top and cabinet bottom are provided with dimples located in their mating surfaces. Dimples located in the cabinet walls are positioned to mate

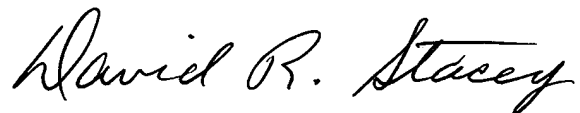
with dimples in cabinet top and cabinet bottom such that the sheer strength between the walls and top and walls and bottom is increased. Claim 20 provides the same dimple configuration for a baffle separating two volumes inside the cabinet.

These limitations are neither taught nor suggested in the cited prior art references of Rennie, who provides no insight as to cabinet assembly; McWhirter, who teaches welding cabinet members together or Cugley, who does not teach a totally enclosed cabinet capable of developing an internal pressure that could cause a sheer force on the assembly hardware. Therefore, the claimed invention is patentably distinguishable therefrom according to M.P.E.P. 2143.03. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Since claim 28 is dependent from claim 20 and claim 30 is dependent from claim 29, they are also allowable according to M.P.E.P. 2143.03. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Therefore, the rejection of claims 1-11 is unsupported and should be reversed.

**IX. CONCLUSION**

Based on the arguments provided herein, it is respectfully requested that the Honorable Board of Patent Appeals and Interferences reverse (or otherwise correct) the final rejection of claims 1, 8-17, 20 and 28-32.

Respectfully submitted,



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**APPENDIX OF THE APPEALED CLAIMS**

1 1. A cabinet for enclosing a controller, said controller being subject to arcing, which  
2 produces arc gasses, said cabinet comprising:

3 a plurality of walls for enclosing said controller;

4 a roof panel connected to said plurality of walls;

5 an exhaust vent for discharging built up gasses generated during an arc fault  
6 event;

7 a floor panel connected to said plurality of walls; and

8 a door for accessing said controller and maintaining integrity of said cabinet  
9 during said arc fault event;

10 a first member disposed parallel to one of said plurality of walls;

11 a second member connecting said first member to said one of said plurality of  
12 walls;

13 a hinge connecting said door to one of said first member, said second member,  
14 and said one of said plurality of walls;

15 a channel attached to said door and extending over said hinge, said channel  
16 adapted for receiving an edge of said first member, said edge opposite said second  
17 member; and

18 a resilient seal disposed between said edge and said channel.



1     8.     The cabinet of claim 1 further comprising a latching mechanism for releasably  
2     securing said door in a closed position, said latch mechanism including a plurality of  
3     latch hooks and a strike assembly receiving said plurality of latch hooks such that said  
4     door remains sealed during said arcing.

1     9.     The cabinet of claim 1 further comprising:

2             an opening bounded by a wall edge of one of said plurality of walls;

3             an access panel having a first surface and a first panel edge with a protruding  
4     member extending toward said wall edge; and

5             a resilient seal disposed between said first surface of said access panel and said  
6     wall edge.

1     10.    The cabinet of claim 1 further comprising:

2             an opening bounded by a first edge of one of said plurality of walls and by a  
3     second edge of another one of said plurality of walls;

4             an access panel having a first surface, a first panel edge with a first protruding  
5     member extending toward said first edge, and a second panel edge with a second  
6     protruding member extending toward said second edge,

7             a first resilient seal disposed between said first surface of said access panel and  
8     said first edge; and

9             a second resilient seal disposed between said second surface of said access  
10    panel and said second edge.

1     11.    A cabinet for enclosing a controller, said controller being subject to arcing, which  
2     produces arc gasses, said cabinet comprising:

3 a plurality of walls for enclosing said controller;  
4 a roof panel connected to said plurality of walls;  
5 a floor panel connected to said plurality of walls;  
6 an exhaust vent for discharging said arc gasses;  
7 a flap covering said exhaust vent, said flap adapted to open and allow said arc  
8 gasses to escape;  
9 a hinge connecting said flap to said cabinet;  
10 a door for accessing said controller;  
11 a latching mechanism for releasably securing said door in a closed position, said  
12 latch mechanism including a plurality of latch hooks and a strike assembly receiving said  
13 plurality of latch hooks such that said door remains sealed during said arcing;  
14 a first member disposed parallel to one of said plurality of walls;  
15 a second member connecting said first member to said one of said plurality of  
16 walls;  
17 a hinge connecting said door to one of said first member, said second member,  
18 and said one of said plurality of walls;  
19 a channel attached to said door and extending over said hinge, said channel  
20 adapted for receiving an edge of said first member; and  
21 a resilient door seal disposed between said edge and said channel.

1 12. The cabinet of claim 11 further comprising:

2 an opening bounded by a first inwardly turned edge of one of said plurality of  
3 walls and by a second inwardly turned edge of another one of said plurality of walls;

an access panel having a first surface, a first outwardly turned panel edge with a first protruding member extending toward said first inwardly turned edge, and a second outwardly turned panel edge with a second protruding member extending toward said second inwardly turned edge,

a first resilient seal disposed between said first surface of said access panel and said first inwardly turned edge; and

a second resilient seal disposed between said second surface of said access panel and said second inwardly turned edge.

13. The cabinet of claim 11 further comprising:

a first dimple in a first surface selected from one of said roof panel, said floor panel, one of said plurality of walls, and a structural member; and

a second dimple in a second surface selected from one of said roof panel, said floor panel, one of said plurality of walls, and said structural member, said second dimple adapted to mate with said first dimple.

14. The cabinet of claim 13 further comprising:

a first opening in said first surface being center aligned within said first dimple;

a second opening in said second surface being center aligned within said second dimple and in register with said first opening when said first dimple is mated with said second dimple; and

a fastener disposed in said first opening and said second opening, said fastener securely mating said first and second dimples such that said mated dimples provide an increased shear strength to said fastener.

1 15. The cabinet of claim 11 further comprising a baffle for isolating a first volume of  
2 said cabinet from a second volume of said cabinet, said baffle connected to at least two  
3 of said plurality of walls.

1 16. A cabinet for enclosing a controller, said controller being subject to arcing, which  
2 produces arc gasses, said cabinet comprising:

3 a plurality of walls for enclosing said controller;

4 an opening bounded by a first edge of one of said plurality of walls and by a  
5 second edge of another one of said plurality of walls;

6 an access panel having a first surface, a first panel edge with a first protruding  
7 member extending toward said first edge, and a second panel edge with a second  
8 protruding member extending toward said second edge,

9 a first resilient seal disposed between said first surface of said access panel and  
10 said first edge; and

11 a second resilient seal disposed between said second surface of said access  
12 panel and said second edge.

1 17. A cabinet for enclosing a controller, said controller being subject to arcing, which  
2 produces arc gasses, said cabinet comprising:

3 a plurality of walls for enclosing said controller;

4 a door for accessing said controller, said door including

5 a latching mechanism for releasably securing said door in a closed position, said  
6 latch mechanism including a plurality of latch hooks and a strike assembly receiving said  
7 plurality of latch hooks such that said door remains sealed during said arcing;

8 a first member disposed parallel to one of said plurality of walls;

9           a second member connecting said first member to said one of said plurality of  
10 walls;

11           a hinge connecting said door to one of said first member, said second member,  
12 and said one of said plurality of walls;

13           a channel attached to said door and extending over said hinge, said channel  
14 adapted for receiving an edge of said first member; and

15           a resilient door seal disposed in said channel for sealing a gap between said  
16 edge and said channel.

1   20.   A cabinet for enclosing a controller, said controller being subject to arcing, which  
2 produces arc gasses, said cabinet comprising:

3           a plurality of walls for enclosing said controller;

4           a baffle for isolating a first volume of said cabinet from a second volume of said  
5 cabinet, said baffle connected to at least two of said plurality of walls, said first volume  
6 containing said arc gasses;

7           a least one dimple in at least two of said plurality of walls; and

8           a least two dimples in said baffle, said baffle dimples adapted to mate with said  
9 wall dimples thereby providing a high sheer strength attachment between said plurality  
10 of walls and said baffle.

1   28.   The cabinet of claim 20 further comprising

2           an aperture centrally defined in each of said wall dimples and in each of said  
3 baffle dimples such that said apertures in said wall dimples are in register with said  
4 apertures in said baffle dimples when said wall dimples are mated with said baffle  
5 dimples; and

6 a fastener disposed in said registered apertures of said wall dimples and said  
7 baffle dimples, said mated dimples providing increased shear strength to said fastener  
8 securing said walls to said baffle.

1 29. An arc resistant cabinet for enclosing electrical equipment subject to arcing faults  
2 that produce arc gasses, said cabinet comprising:

3 a plurality of walls for enclosing said electrical equipment;

4 a roof panel connected to said plurality of walls;

5 a floor panel connected to said plurality of walls;

6 a plurality of dimples, at least one dimple being defined in each of said plurality of  
7 walls, said roof panel and said floor panel, each of said plurality of dimples defining a  
8 central aperture and being configured for mating with another of said plurality of dimples  
9 such that said central apertures of mated dimples are generally aligned; and

10 a plurality of fastening devices, one being received in said generally aligned  
11 central apertures of mated dimples, said mated dimples providing increased sheer  
12 strength between said plurality of walls, said roof panel and said floor panel of said  
13 cabinet.

1 30. The cabinet of claim 29 further comprising:

2 an opening bounded by a first inwardly turned edge of one of said plurality of  
3 walls and by a second inwardly turned edge of another one of said plurality of walls;

4 an access panel having a first surface, a first outwardly turned panel edge with a  
5 first protruding member extending toward said first inwardly turned edge, and a second  
6 outwardly turned panel edge with a second protruding member extending toward said  
7 second inwardly turned edge,

8 a first resilient seal disposed between said first surface of said access panel and  
9 said first inwardly turned edge; and

10           a second resilient seal disposed between said second surface of said access  
11 panel and said second inwardly turned edge.

1   31.    An arc resistant cabinet for enclosing electrical equipment subject to arcing faults  
2 that produce arc gasses, said cabinet comprising:

3           a plurality of walls for enclosing said electrical equipment;

4           a roof panel connected to said plurality of walls;

5           a floor panel connected to said plurality of walls;

6           an opening bounded by a first inwardly turned edge of one of said plurality of  
7 walls and by a second inwardly turned edge of another one of said plurality of walls;

8           an access panel having a first surface, a first outwardly turned panel edge with a  
9 first protruding member extending toward said first inwardly turned edge, and a second  
10 outwardly turned panel edge with a second protruding member extending toward said  
11 second inwardly turned edge,

12          a first resilient seal disposed between said first surface of said access panel and  
13 said first inwardly turned edge; and

14          a second resilient seal disposed between said second surface of said access  
15 panel and said second inwardly turned edge.

1   32.    An arc resistant cabinet for enclosing electrical equipment subject to arcing faults  
2 that produce arc gasses, said cabinet comprising:

3           a plurality of structural members;

4           a plurality of walls for enclosing said electrical equipment;

5           a roof panel connected to said plurality of walls;

6           a floor panel connected to said plurality of walls;

7           a plurality of dimples, at least one dimple being defined in each of said plurality of  
8 structural members, said plurality of walls, said roof panel and said floor panel, each of  
9 said plurality of dimples defining a central aperture and being configured for mating with  
10 another of said plurality of dimples such that said central apertures of mated dimples are  
11 generally aligned; and

12           a plurality of fastening devices, one being received in said generally aligned  
13 central apertures of mated dimples, said mated dimples providing increased sheer  
14 strength between said plurality of structural members, said plurality of walls, said roof  
15 panel and said floor panel of said cabinet.